{In Archive} Updating Children's Centers web pages -- need your input

Richard Callan to: Frank Gilliland, Dr. Rob McConnell, Andrea Hricko 02/11/2009 06:24 PM

Archive: This message is being viewed in an archive.

Hi Frank, Rob and Andrea,

We need your input to make sure the Children's Centers website is updated to reflect your latest research.

The page on your Center is at the following URL: http://es.epa.gov/ncer/childrenscenters/usc.html.

Please take a look at the Selected Results and Selected Publications sections of this page (reproduced below) and let us know how to update them to reflect your latest research results and publications. We are using the bibliography you sent us several months ago to update the page with the full list of publications, located at http://es.epa.gov/ncer/childrenscenters/usc_pubs.html.

Also, if you've had any recent media stories (print and/or video) about the work of your Center, please send a link to those as well or send a file that we can post on the site.

Thank you,

Rich

Selected Results

- *In utero* exposure to maternal smoking increased the risk of asthma especially among children with two phase II enzymes variant genotypes; GSTM1 null and GSTP1 A105G (Gilliland et al., 2002; Gilliland et al., 2003 EXIT Disclaimer)
- High levels of exposure to locally emitted fresh vehicle exhaust were associated with increased risk of early life asthma (Gauderman, W. J., E. Avol, F. Lurmann, N. Kuenzli, F. Gilliland, J. Peters and R. McConnell (2005). Childhood asthma and exposure to traffic and nitrogen dioxide. Epidemiology 16(6): 737-743) and (McConnell, R., K. Berhane, L. Yao, M. Jerrett, F. Lurmann, F. Gilliland, N. Kunzli, J. Gauderman, E. Avol, D. Thomas and J. Peters (2006). Traffic, susceptibility, and childhood asthma. Environ Health Perspect 114(5): 766-72.)
- The incidence of newly diagnosed asthma is increased in children playing team sports in high, but not low, O_3 communities (McConnell et al., 2002 EXIT Disclaimer)
- Clinically significant effects of air pollution of lung function growth were observed in 18 year olds living in Southern California (Gauderman et al., 2004 EXIT Disclaimer)
- Improvement in the rate of lung function growth occurred in subjects who moved to areas of lower PM_{10} compared with those who moved to areas of higher PM_{10} (Avol et al., 2001 EXIT Disclaimer)
- Overweight and obese children are at increased risk for new onset asthma (Gilliland et al., 2003 EXIT Disclaimer)
- Deficits in lung function growth occur with increased nitrogen dioxide (NO_2) levels (and a cluster of highly correlated pollutants, including nitric acid vapor and particulates) (Gauderman et al., 2000 EXIT Disclaimer). This result has also been replicated in our second

cohort of fourth graders enrolled three years later (Gauderman et al., 2002 EXIT Disclaimer)

- Diets low in antioxidant vitamins or magnesium are associated with chronic deficits in lung function (Gilliland et al., 2003 EXIT Disclaimer)
- A large increase in respiratory-related school absences occurs with daily fluctuations in O_3 levels, particularly in low PM_{10}/NO_2 communities (Gilliland et al., 2001 EXIT Disclaimer)
- An increased risk of respiratory-related school absences is seen in children with and without asthma exposed to second hand smoke (Gilliland et al., 2003 EXIT Disclaimer)
- Risk of respiratory-related school absences vary by GSTM1 and GSTP1 genotype (Gilliland et al., 2002 EXIT Disclaimer)
- Second hand smoke exposure has adjuvant effects on allergen induced nasal allergic responses that is 10-fold larger in children than adults (Diaz-Sanchez et al., 2002)
- The adjuvant effects of diesel exhaust particles (DEP) on nasal allergic responses strongly depends on GSTM1 and GSTP1 genotype (Gilliland et al., 2004 EXIT Disclaimer)
- *In utero* exposure to maternal smoking increased the risk of asthma in children and grandchildren, even when the mother did not smoke (Li et al., 2005 EXIT Disclaimer)
- The antioxidant sulfphoraphane inhibits the pro-allergic effects of diesel exhaust in vitro and in vivo (Ritz et al., 2005)
- The risk of asthma is associated with distance to a major road in children without a family history of asthma (McConnell, et al., 2005 EXIT Disclaimer)
- TNFα–308 genotype is associated with early life asthma prevalence, but the effect of the genetic variant is limited to low O_3 communities (Li et al., 2006 EXIT Disclaimer)

Selected Publications

Gauderman WJ, Avol E, Gilliland F, Vora H, Thomas D, Berhane K, McConnell R, Kuenzli N, Lurmann F, Rappaport E, Margolis H, Bates D, Peters J, 2004. The effect of air pollution on lung development from 10 to 18 years of age. *New England Journal of Medicine* 9;351(11):1057-67. EXIT Disclaimer

McConnell R, Berhane K, Yao L, Jerrett M, Lurmann F, Gilliland F, Kunzli N,Gauderman J, Avol E, Thomas D, Peters J, 2006.Traffic, susceptibility, and childhood asthma. *Environmental Health Perspectives* 114(5):766-72. EXIT Disclaimer

Gilliland, F. D., Y.-F. Li, A. Saxon and D. Diaz-Sanchez (2004). Glutathione-S-Transferase M1 and P1 genotypes protect against xenobiotic enhancement of allergic responses. *Lancet* 363: 119-25.

Gauderman, W. J., E. Avol, F. Lurmann, N. Kuenzli, F. Gilliland, J. Peters and R. McConnell (2005). Childhood asthma and exposure to traffic and nitrogen dioxide. *Epidemiology* 16(6): 737-743.

Gilliland, F. D., Y.-F. Li, H. Gong and D. Diaz-Sanchez (2006). Glutathione-s-transferase M1 and P1 prevent aggravation of allergic responses by secondhand smoke. *American Journal of Respiratory & Critical Care Medicine* 2006 Oct 5; [Epub ahead of print] doi:10.1164/rccm.200509-1424OC.

McConnell, R., K. Berhane, F. Gilliland, S. J. London, T. Islam, W. J. Gauderman, E. Avol, H. G. Margolis, and J. M. Peters (2002). Asthma in exercising children exposed to ozone: A cohort study. *Lancet* 359(9304):386-91.

Wan J, Diaz-Sanchez D (2006). Phase II enzymes induction blocks the enhanced IgE production in B cells by diesel exhaust particles. *Journal of Immunology* 177(5):3477-83.

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